

CONFERENCE OF THE EIGHTEEN-NATION COMMITTEE  
ON DISARMAMENT

ENDC/PV.323  
17 August 1967  
ENGLISH

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FINAL VERBATIM RECORD OF THE THREE HUNDRED AND TWENTY-THIRD MEETING

held at the Palais des Nations, Geneva,  
on Thursday, 17 August 1967, at 10.30 a.m.

THE UNIVERSITY  
OF MICHIGAN

DEC 6 1967

DOCUMENT  
COLLECTION

Chairman:

Mr. William C. FOSTER

(United States of America)

GE.67-16427  
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## PRESENT AT THE TABLE

Brazil:

Mr. A.F. AZEREDO da SILVEIRA  
Mr. C.A. de SOUZA e SILVA  
Mr. A. da COSTA GUIMARAES  
Mr. S. de QUEIROZ DUARTE

Bulgaria:

Mr. K. CHRISTOV  
Mr. B. KONSTANTINOV  
Mr. T. DAMIANOV

Burma:

U KYAW MIN

Canada:

Mr. E.L.M. BURNS  
Mr. C.J. MARSHALL  
Mr. J.R. MORDEN  
Mr. A. BERNIER

Czechoslovakia:

Mr. P. WINKLER  
Mr. V. VAJNAR  
Mr. J. STRUCKA

Ethiopia:

Mr. A. ZELLEKE  
Mr. B. ASSFAW

India:

Mr. V.C. TRIVEDI  
Mr. K.P. JAIN

Italy:

Mr. R. CARACCILOLO  
Mr. G.P. TOZZOLI  
Mr. E. FRANCO  
Mr. F. SORO

Mexico:

Miss E. AGUIRRE

Nigeria:

Alhaji SULE KOLO  
Mr. B.O. TONWE

Poland:

Mr. J. GOLDBLAT  
Mr. E. STANIEWSKI

Romania:

Mr. N. ECOBESCO  
Mr. O. IONESCO  
Mr. C. GEORGESCO  
Mr. A. COROIANU

Sweden:

Mrs. A. MYRDAL  
Mr. A. EDELSTAM  
Mr. H. BLIX  
Mr. R. BOMAN

Union of Soviet Socialist  
Republics:

Mr. A.A. ROSHCHIN  
Mr. V.P. SUSLOV  
Mr. V.V. SHUSTOV

United Arab Republic:

Mr. A. OSMAN  
Mr. O. SIRRY  
Mr. M. SHAKER

United Kingdom:

Sir Harold BEELEY  
Mr. I.F. PORTER  
Mr. R.I.T. CROMARTIE

United States of America:

Mr. W.C. FOSTER  
Mr. G. BUNN  
Mr. C. GLEYSTEEN  
Mr. G. BREAM

Special Representative of the  
Secretary-General:

Mr. D. PROTITCH

Deputy Special Representative  
of the Secretary-General:

Mr. W. EPSTEIN

1. The CHAIRMAN (United States of America): I declare open the 323rd plenary meeting of the Conference of the Eighteen-Nation Committee on Disarmament.
2. Mrs. MYRDAL (Sweden): Encouraging reports are now reaching us, increasing every day our expectation that the Eighteen-Nation Committee on Disarmament will not, after all, have to face the forthcoming session of the United Nations General Assembly empty-handed. My delegation greets these prospects with satisfaction, and we hope ardently that the Committee will be able to make a unanimous recommendation to the General Assembly on the important question of a non-proliferation treaty.
3. That matter will not, however, be the theme of my intervention today. Rather -- and, I think, more appropriately -- I shall use the intervening time given us to take the floor once again on another issue which my delegation considers to be just as important: namely, the efforts to arrive speedily at a treaty prohibiting all nuclear tests.
4. Since my delegation last spoke on this matter on 20 July (ENDC/PV.315), presenting a memorandum (ENDC/191) worked out in the delegation on the possibilities for control of an underground test-ban treaty, new comments have been made on the political and technical aspects of the matter. I am referring particularly to the interventions made by the representative of the United Kingdom, Mr. Mulley, on 3 August (ENDC/PV.319) and by the representative of the United States, Mr. Foster, on 8 August (ENDC/PV.320). At the outset I wish to express our appreciation of the interest thus shown by those two delegations in the ideas we put forward. Even greater, of course, is the satisfaction that renewed discussion on this topic is having a real impact in moving the negotiations forward. It should enhance the possibilities of arriving at an agreement, now or after some delay -- but not too long a delay again -- on a treaty prohibiting nuclear weapon tests.
5. Today, first, I shall attempt to comment on technical points raised in the two statements; but at the end of my intervention I want also to offer some comments concerning the political and procedural aspects of our task. Under the technical heading I will first deal with some specific points made by other representatives, and then deal more generally with some essential, although perhaps unconventional,

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aspects of our ideas. For obvious reasons my replies cannot be exhaustive. To explain our reasoning and calculations in detail would require using the language of mathematics; and such presentation must be made elsewhere.

6. Mr. Foster at the meeting of 8 August said:

"In order to be applicable, any of the identification criteria, in this case the complexity, must have a statistical distribution independent of the location of the event." (ENDC/PV.320, para. 54)

He referred also to a striking example where that was not the case: three specified events in Novaya Zemlya, in the Soviet Union. However, in that specific case we have an area where very few or no earthquakes are expected. A test could not be hidden among earthquakes there, and an event there would certainly be suspicious enough to justify further action by the observing party.

7. Despite that aspect of the particular example, however, Mr. Foster has pointed out a serious general weakness of the seismological control method: for most places in the world we do not know what the seismological signature of an explosion will be. But neither can we expect to obtain complete empirical knowledge; for nobody, I think, would suggest that one should proceed to a calibration by nuclear explosions of all possible test sites over the globe. We shall have to be content with limited empirical knowledge about some places and with what theoretical inference can contribute as regards all other locations. This general weakness of the seismological control method is, however, reduced by the fact -- which is very important in our system -- that neither will a prospective violator have that knowledge.

8. Both Mr. Foster and Mr. Mulley referred to the diminished effectiveness of identification criteria applied to events in the magnitude range just above 4. We think that effective application of the array technique to long-period as well as short-period waves should be quite helpful and that the simultaneous use of several identification methods would further increase effectiveness.

9. Mr. Mulley also raised the point of how a suspicious user of foreign regional data can be convinced that they are trustworthy. That could, of course, be done by using safeguarded regional stations, so-called "black boxes"; but I think that those of us around this table who remember the difficulties connected with that issue will

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agree with me that one should in the first instance try other approaches. One fitting our "detection club" concept would be that larger States would undertake to run, on a round-the-clock basis, regional networks of seismological stations of specified minimum standards on agreed locations in their territories. Data from such networks could be checked to some extent if the amount of data available for any time were large enough to provide redundancy in coverage. In any case the parties have reason to use very similar networks to deal properly with the problems of predicting earthquake damage. That would further enhance the trustworthiness of the data because of the involvement of the scientific integrity of the research institutes responsible for the networks.

10. Both Mr. Foster (ENDC/PV.320, paras. 55, 56) and Mr. Mulley (ENDC/PV.319, para. 17) raised questions relating to the consequences of mistaking explosions for earthquakes, a problem referred to by Mr. Foster as the problem dealt with in the Swedish paper in reverse (ENDC/PV.312, para. 17), since our paper centred mainly on mistaking earthquakes for explosions. My explanation of this question will take us into the central part of our suggestion that control may be based on deterrence created by a risk of disclosure for the violator rather than on a supposed certainty about the nature of all underground events.

11. I wish to start with the problem situation facing an observer looking at seismograms of events from a specified area -- and I hope my pedagogical talents will be sufficient for the task of explaining this intricate matter. The observer will analyse a flow of seismic events. He will apply certain identification criteria to them, and some of them will look more like explosions than others. The problem for the party to a treaty then is to find such rules for his own actions on that information from the observer that any prospective violator will feel deterred from introducing real nuclear explosions into that flow of events. Such rules are provided by decision theory.

12. For that purpose it must be decided above what level of explosion-likeness or suspiciousness a party will take such action as the treaty may permit. This decision level, which will have to be stated in numerical terms, tells him how to act in a predetermined fashion in all cases: when to act as if a violation had occurred, and

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when to act as if an earthquake had occurred. The actions are then initiated, independently of whether or not a violation has really occurred. Thus, doubts do not arise about how to act, even if doubts could arise about what really happened. That is really the central point. If the deterrence exercised in that way by the observers is high enough to be efficient, then their security problem is solved. The probability -- to which Mr. Mulley referred -- of mistaking explosions for earthquakes when using a certain decision level has been an important element already in the calculations that determine what an observing party would choose as his decision level, but after that it does not enter into the decision-making process.

13. The other possibility -- that of mistaking earthquakes for explosions -- has also been used in the basic calculations. Its role is particularly relevant in determining the expected number of unwarranted initiations of political action in the case of control without obligatory inspections.

14. In our evaluation of lately-published identification methods we have found that the data permit a system of deterrent control through obligatory inspection at a very low rate. The data also indicate the possibility of a system of deterrent control without such inspection; but then one would have to accept the risk of having unwarranted but infrequent political action on some earthquakes. In our previous statements we did not, however, deal with the remaining problem of possible follow-up action; and I will now turn to that problem.

15. In his speech Mr. Mulley referred to our idea of verification by challenge, calling it "superimposing a political procedure on the technical situation" (ENDC/PV.319, para. 20); and he asked why the Swedish delegation had not returned to that idea in our recent exposés of the technical aspects of the control problem. The reason was simply one of time economy. We wanted to limit our earlier interventions this year to the more technical aspects of the control question. We have by no means abandoned that idea of verification by challenge; on the contrary, we think that it will become a very important part of a treaty banning underground tests if the deterrence system of control is adopted in the form of control without obligatory inspection.

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16. Against that background one could easily visualize, I think, a comprehensive control system containing several stages. The parties to a test-ban treaty would, to begin with, undertake to co-operate in good faith in an effective international exchange of seismological data in order to facilitate the detection, location and identification of underground events. Such an obligation would correspond to the proposal for a "detection club" which we have put forward on several occasions in recent years in the Eighteen-Nation Committee on Disarmament and which has been endorsed repeatedly by the United Nations General Assembly.

17. It may be fitting to recall here what the representative of the Soviet Union, Mr. Roshchin, said on this matter at the General Assembly last year:

"The Soviet delegation has also indicated that it considers the Swedish proposal of a 'detection club' worthy of attention, if this would contribute to the reaching of an agreement on the prohibition

of underground nuclear-weapons tests without inspection." (A/C.1/PV.1463, p.21)

At that time it had still to be shown that data accumulated by exchange through a "detection club" would permit clarification of the overwhelming majority of events. I hope we have managed to demonstrate this by our previous statements, in which we have drawn so much from recent developments in seismological science and technology.

18. To continue my description of the outlines of the control system we have in mind: the next part of the system would be an undertaking by all parties to the treaty to co-operate in good faith also for the clarification of any seismic event. The parties would thus have the right to make enquiries and to receive information and additional data as a result of such enquiries. Further, the parties would be able to invite inspection on their territories, the inspection to be carried out in the manner prescribed by the inviting party. Finally, if it found the information available or made available under some or all of the earlier-mentioned procedures to be inadequate, a party could make proposals for other suitable methods of clarification. It thus becomes obvious that it is inherent in the procedure we have outlined that a party might directly propose inspection on another party's territory. If such a proposal were not accepted, the party would have to determine, in the light of that negative reaction and all available evidence, what conclusions should be drawn and what course of action should be followed.

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19. That procedure and those proposals amount to what has been labelled the verification-by-challenge method. However, it has been claimed that this method is unworkable and would soon lead to a collapse of the whole treaty because it would only postpone the solution of the problem of on-site inspection to a rather remote future (ENDC/PV.254, p.20) and because some countries might risk being challenged almost continuously. But if the idea were accepted that deterrence should be the basis for the trustworthiness of a comprehensive test ban, we are convinced that, with the present possibilities of seismic identification and with the help of the "detection club", any test-ban signatory would be supplied with seismic data rapidly enough and in sufficient number for analysis as regards the origin of a specific event. Therefore, an erroneous challenge carried to such a stage as to endanger the treaty would be a rare occurrence indeed.

20. We are convinced that recent studies justify the opinion that seismological observations by national stations circulated through the "detection club", plus further refined methods of analysis and, in addition, the verification-by-challenge procedure, would together form a comprehensive control system for a comprehensive test ban. Therefore we have refrained on purpose from discussing whether a right to make use of a certain number of on-site inspections should be provided. That is a matter left open. However, even if such a right were to be provided, the verification-by-challenge procedure might well prove to be useful in certain situations.

21. I wish to close these remarks of an explanatory technical nature by paying tribute once again to the vast efforts in the science of seismology that are now being undertaken, particularly in the United States and the United Kingdom. We agree with Mr. Foster and Mr. Mulley that continued efforts in this field are of great importance for the solution of the problem of test-ban control. We wish especially to endorse their statements to the effect that if all parties conducting work in this area were to make their conclusions internationally available, we might reach more rapidly our goal of an adequate verification system for a comprehensive test-ban treaty. A good omen is the promise made by Mr. Foster:

"If a comprehensive treaty were achieved we should, on a regular basis, be willing to make our regional data available to other parties." (ENDC/PV.320, para. 59)

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22. A mutual understanding of the scientific problems involved is of the essence for achieving a comprehensive ban on all testing of nuclear weapons. The compromises which still have to be reached, and which are per se political in nature, should be easier to attain when the uncertainties in the scientific field have been reduced to a minimum. It is our firm conviction that, while a hundred-per-cent certainty can never be achieved by any system, so many of the necessary elements of knowledge are now at hand, or could be brought out into the clear daylight by international discussion, that nobody would have reason to go against the conclusion of a comprehensive test ban through sheer mistrust.

23. The road along which to proceed from here is for this Committee to choose. Either we should, even at this late hour, alongside the negotiations on the non-proliferation treaty, embark on a study of a text for such a test-ban treaty or -- and for reasons of time this might be more practical -- we should use the interval between now and our renewed meetings in the New Year to organize in one way or another -- and this is exactly the idea launched by Mr. Mulley in his statement (ENDC/PV.319, paras. 23, 24) -- meetings of scientists from various interested States in order that they may iron out any technical crinkles which might still affect the control issue. Only one road can we not afford to choose; the one of inaction.

24. In conclusion, let me remind everyone here of the statement in last year's joint memorandum of the non-aligned member States of the Eighteen-Nation Committee on Disarmament that continued nuclear-weapon testing underground -

"... imparts a renewed impetus to the arms race, bringing about unforeseeable consequences in regard to imbalance and mistrust in the relationship between States and causing immense and increasing diversion of human and material resources for purposes of war." (ENDC/177, p.2)

25. Mr. ZELLEKE (Ethiopia): The Ethiopian delegation has this year been conspicuously silent, for a number of reasons but mainly because we are among those delegations that thought it wise to entertain an open mind towards the draft treaty on non-proliferation of nuclear weapons which we strongly expected to see on the table this year and which we are still hopeful of seeing very soon. Lest, however, the shortness of time between now and the opening of the General Assembly might prevent us from making our views clear on the different aspects of the treaty, we find ourselves obliged to say a few words with respect to our attitudes towards some of the aspects of a non-proliferation treaty in general.

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26. Speaking at such a late stage of the work of this Committee, the Ethiopian delegation would like to assure members of the Committee who have taken part in the discussion that all statements have been studied with the utmost care and sympathy, as they deserve. I am happy to say that my delegation finds itself in agreement with so many important statements. If in the course of my statement, therefore, I appear to be repetitive, it is only because all the essentials concerning the non-proliferation treaty have been said in so many clear and eloquent ways, and because actually I could do no better than simply subscribe to certain statements with which the Ethiopian delegation finds itself in complete agreement.

27. At the outset I should like to state that the Ethiopian delegation attaches great importance to the question of disarmament in general and no less importance to the question of a non-proliferation treaty. Historical experience has taught my country to be against weapons of mass destruction. We are not unaware of the difficulties of disarmament negotiations. Indeed disarmament negotiations are a difficult and complicated task, the fruits of which can be visualized only in terms of some distant future. That is why the Ethiopian delegation has all along felt that a commitment not to use nuclear weapons is an essential measure that should be taken boldly by all nations, nuclear and non-nuclear Powers alike. An international convention to prohibit the use of nuclear and thermomuclear weapons would not only alleviate the legitimate concerns and fears of the peoples of the world over the mounting stockpiles of the most destructive weapons ever devised by man, but would also greatly contribute to and facilitate disarmament negotiations in general and a non-proliferation treaty in particular.

28. Allow me, in that regard, to quote what my own delegation has stated in the past. Speaking on 20 August 1964, Lij Mikael Imru, then leader of the Ethiopian delegation, stated:

"... the longer the use of nuclear weapons remains unprohibited by international convention -- and therefore, by implication, tolerated --, the greater the number of countries which will attempt to find security and protection in dependence upon them. Nations will be tempted to hold the false view that great-Power status would be acquired by the possession of such weapons. Those weapons, in turn, might absorb a huge proportion of the nations' resources and to some extent might deplete their conventional defences and make them completely and solely

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dependent on nuclear arms. Thus they would become unreliable partners in the task of building a better and safer world. A clear undertaking by the international community to prohibit the use of nuclear weapons will no doubt have a salutary effect upon the armament programmes of many States and will undermine the kind of false legitimacy which nuclear weapons would otherwise acquire." (ENDC/PV.209, p.10)

29. In the course of the past two years, discussions in this Committee have proved beyond doubt that the question under consideration -- that is, the prevention of the spread of nuclear weapons -- is closely connected with so many essential but unsettled international and regional problems that its solution must of necessity have a certain bearing on those important side issues. No matter how optimistic we may want to be, it remains a fact today that the world has still a long way to go towards the desirable goal of mutual trust, confidence and prosperity. The guns that still continue to resound in various parts of the globe do not fail to remind nations of the agonies of war. The economic realities of the world, two-thirds of whose population share only a small fraction of the world's wealth while no less than \$150,000 million is expended annually on armaments alone, create a paradoxical situation.

30. Regional tensions which have too often brought the world into open conflict have not been conducive to peaceful development. In addition, the work of this Committee has been further complicated by the absence of certain nuclear Powers from the negotiating table.

31. These are the circumstances in which the Eighteen-Nation Committee on Disarmament is asked to negotiate and sign a treaty on the prevention of the spread of nuclear weapons. These are circumstances which cannot be ignored in any discussion of disarmament. They have understandably made negotiations in this Committee all the more difficult and complicated. Too often they have also diverted the attention of the Committee from its basic tasks.

32. We are here to negotiate disarmament measures, the ideal goal of which is the attainment of general and complete disarmament. It has been repeatedly stated in this Committee and in the General Assembly that that is in fact the very objective which justifies the existence of the Committee. It is the basis of the statement, repeatedly and emphatically expressed here and in the General Assembly, that the

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"non-proliferation treaty or any other collateral measure is not an end in itself but a means to an end". It was because of our belief in that principle that the Ethiopian delegation became a party to the joint memorandum of the eight non-aligned countries of September 1965, the relevant part of which reads as follows:

"A treaty on non-proliferation of nuclear weapons is not an end in itself but only a means to an end. That end is the achievement of General and Complete Disarmament, and, more particularly, nuclear disarmament. The eight delegations are convinced that measures to prohibit the spread of nuclear weapons should, therefore, be coupled with or followed by tangible steps to halt the nuclear arms race and to limit, reduce and eliminate the stocks of nuclear weapons and the means of their delivery." (ENDC/158)

33. We are happy to note that the General Assembly, as indicated in its resolution 2028 (XX), has taken that to be one of the principles upon which the validity of a non-proliferation treaty must be judged. Principle (c) of that resolution states: "The treaty should be a step towards the achievement of general and complete disarmament and, more particularly, nuclear disarmament" (ENDC/161).

It is encouraging to note that, as the records show, no serious objections to that point of view have been heard. There have been, in fact, very encouraging signals of adherence to that principle. Almost at the beginning of our work in the Committee this year we heard an important message from Mr. Martin, Secretary of State for External Affairs of Canada, read by the representative of Canada, Mr. Burns, at our meeting of 28 February. We were happy to read in the message the following passage:

"It is neither unnatural nor unreasonable that countries forgoing their option to produce nuclear weapons should wish to ensure that their act of self-denial should in turn lead the nuclear-weapon Powers to undertake tangible steps to reduce and eliminate their vast stockpiles of nuclear weapons and delivery vehicles. We are therefore of the opinion that nuclear-weapon States signatories to a treaty should be party to a clear and compelling declaration of intent to embark on the process of nuclear arms control. In short, we think that by means of this treaty nuclear as well as non-nuclear States should contribute, and be seen to contribute, to the objective of nuclear disarmament."

(ENDC/PV.289, para.48)

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In that regard the Ethiopian delegation is among those who consider it indispensable that there be embodied in the treaty an expressed statement of intention that would oblige nuclear Powers to continue negotiations on disarmament measures.

34. Much could be said about the other cardinal principles set forth in resolution 2028 (XX). In particular, mention of the question of mutual obligations and responsibilities seems unavoidable. Like many delegations, we are of the opinion that the treaty on non-proliferation of nuclear weapons should not be one-sided and that it should give rise to a balance of obligations and responsibilities. However, we agree with what the representative of Brazil, Mr. Azeredo da Silveira, stated at our meeting of 4 July:

"When we speak of balance of obligations we do not have in mind an absolute symmetry between the undertakings of the nuclear-weapon Powers and those of the non-nuclear nations." (ENDC/PV.310, para.17)

It is our understanding that as long as there is a willingness and a firm commitment by the nuclear-weapon Powers to continue negotiations on definite programmes of disarmament measures, the problem of balance of obligations will eventually solve itself.

35. It is ironical that nuclear technology for weapon purposes and the technology for nuclear devices for peaceful purposes are one and the same thing. We have heard it said repeatedly in this Committee that a nation reaching a stage of technology which permits the production of nuclear explosive devices for peaceful purposes can no more be classified as a non-nuclear Power than can a nuclear Power with nuclear weapons -- the contention being that the same explosive devices for peaceful purposes could be used equally as weapons of destruction. True as that statement may appear to be, it does not fail to arouse legitimate concern and apprehension in the minds of many people.

36. For some of us, including my own country, questions concerning nuclear technology -- of the magnitude of those with which we are concerned here -- are questions for some distant future. However, it is also a fact that our desire for and commitment to development dictate that no avenues -- in particular the great potentials that lie ahead in the nuclear age -- should remain unexplored. In that connexion we are greatly disturbed at the proposal that the non-proliferation treaty, to which we attach great importance, should also cover nuclear devices for peaceful purposes.

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37. We are not unmindful of the promises of the nuclear Powers to provide, on favourable terms and under appropriate international control, peaceful nuclear devices whenever the need for them is justified. Again, we wonder to what extent a nation relies on such promises, considering the present international realities. Above all, we wonder how long an international treaty could prohibit the normal peaceful technological advancement of a nation. In that regard we hope that some other ways to give satisfaction to all concerned will be found.

38. My delegation would like to reserve its right to take a definite position with regard to this question and other important questions when the draft treaty on non-proliferation is submitted to us shortly.

The Conference decided to issue the following communiqué:

"The Conference of the Eighteen-Nation Committee on Disarmament today held its 323rd plenary meeting in the Palais des Nations, Geneva, under the chairmanship of H.E. Ambassador William C. Foster, representative of the United States.

"Statements were made by the representatives of Sweden and Ethiopia.

"The next meeting of the Conference will be held on Tuesday, 22 August 1967, at 10.30 a.m."

The meeting rose at 11.20 a.m.

